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ABSTRACT

Encompassing the years between 1969 and 1979, this study of 18 standard metropolitan statistical areas (SMSAs) attempted to determine if changes in selected economic indicators were correlated with changes in teacher salaries. Researchers looked at changes in consumer price indices, per capita personal income, and average beginning teachers' salaries in 335 school districts. In addition, a questionnaire was sent to superintendents in the sample districts. The findings of the study do not support significant causal relationships between changes in the cost of living or changes in local income and changes in metropolitan teachers' salaries. The evidence reported is consistent with two conclusions. First, changes in teachers' salaries in referent districts have a greater impact on changes in teachers' salaries in metropolitan districts than either changes in the cost of living or changes in the incomes of local populations. Second, changes in the amount of discretionary funds available to metropolitan districts have a greater impact on changes in teachers' salaries than either changes in the cost of living or changes in local incomes. Also of interest is that per capita personal incomes in the sample SMSAs increased much more than average beginning salaries for teachers. (Author/JM)

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AN EXPLORATORY STUDY OF CHANGES IN ECONOMIC CONDITIONS AND TEACHER SALARIES IN METROPOLITAN AREAS

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AN EXPLORATORY STUDY OF CHANGES IN ECONOMIC CONDITIONS AND TEACHER SALARIES IN METROPOLITAN AREAS

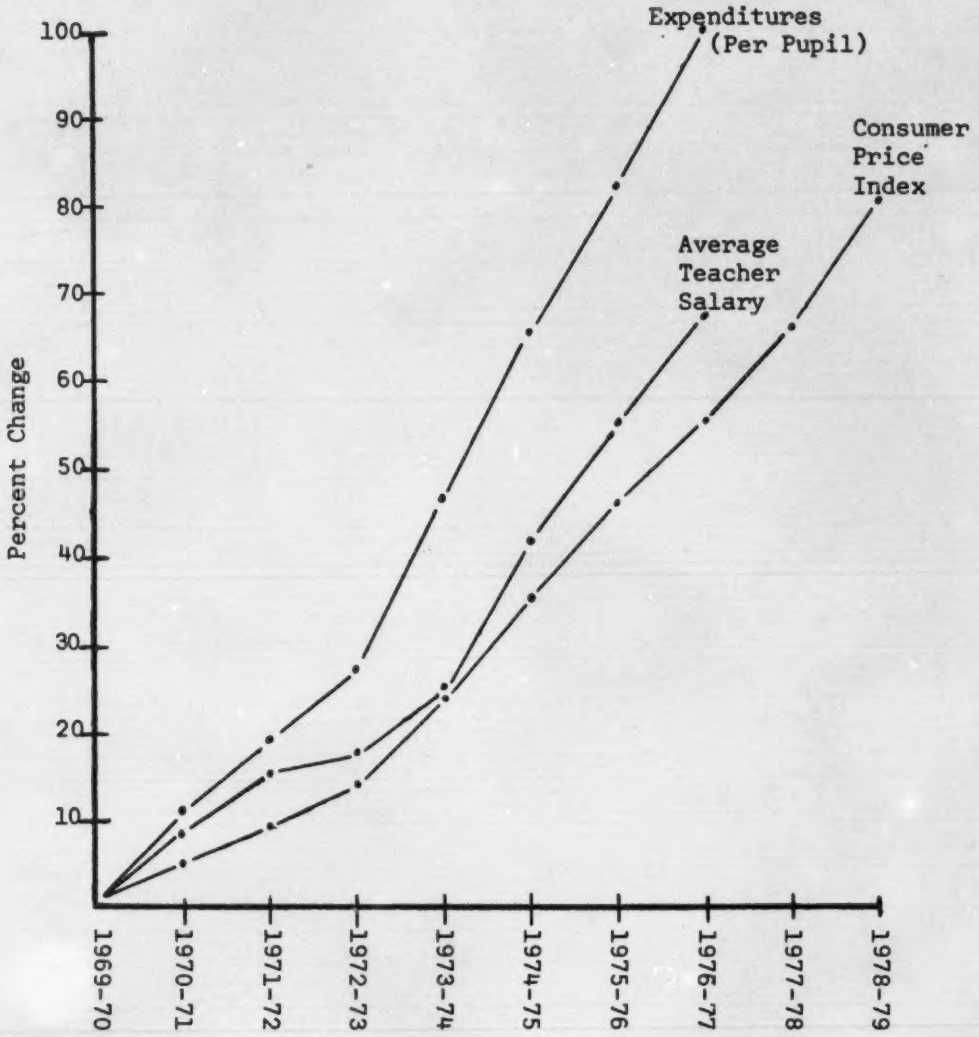
Kenneth M. Matthews

Dramatic changes have occurred in the economic conditions within the United States in recent years. The changes in public school expenditures have been equally dramatic. While the Consumer Price Index has increased significantly since 1969-1970, expenditures per pupil in public elementary and secondary schools have increased even more. Although growth in average teacher salaries exceeded growth in the Consumer Price Index (through 1976-1977) they have not kept pace with educational expenditures during this same time period (See Figure 1). With rising rates of inflation and organized opposition to additional funding for public education the future of teachers' salaries is uncertain. Of particular concern is the fate of teachers in metropolitan areas where attention has been keenly focused on both the level of taxation and the rate of inflation.

An historical analysis was made of recent changes in economic conditions in 18 Standard Metropolitan Statistical Areas (SMSAs) to determine if changes in selected economic indicators were predictive of changes in teacher salaries. Of specific interest were relationships between changes in Consumer Price Indices (CPIs) and Per Capita Personal Income and the changes in average beginning teachers' salaries for a sample of 335 school districts within the 18 SMSAs. The SMSAs included in this study and the number representing each are: Atlanta (13), Balitmore (6), Chicago (19), Cincinnati (26), Cleveland (26), Detroit (22), Houston (13), Kansas City (17), Los Angeles (20), Milwaukee (21), Minneapolis (23), New York (20), Philadelphia (19), Pittsburg (23), St. Louis (18), San Francisco

Figure 1

Percent Change in Public Elementary and Secondary School Expenditures and the Consumer Price Index from 1969-70 to 1978-79



DATA SOURCE: Monthly Labor Review, August, 1979, p. 89 and Projections of Education Statistics to 1986-87, 1978, pp. 90 & 92 (Graph prepared by Bernie Stills, University of Georgia Graduate Assistant).

(21), Seattle (26), and Washington (2).

Results

As Figure 2 shows, the relationship between the relative changes in CPIs and relative changes in average beginning teachers' salaries between 1970 and 1979 is weak. The data in Table 1 indicate that in eight of the SMSAs mean beginning teachers' salaries increased more than the CPI. In the other 10, the CPI increased by a larger percentage than mean beginning teachers' salaries. Overall, the unweighted mean CPI increased only slightly more than the unweighted mean beginning teachers' salaries.

Changes in Per Capita Personal Income were compared with changes in beginning teachers' salaries between the 1970 and 1976 school years. Figure 3 illustrates the weak relationship found between changes in Per Capita Personal Income and changes in average beginning teachers' salaries for the sample SMSAs. The data in Table 2 clearly show that Per Capita Personal Income in the 18 SMSAs grew more rapidly than increases in average beginning teachers' salaries between 1970 and 1976.

Relative Salary Stability

A questionnaire was sent to the superintendents of the sample districts on which they were asked to rank three common considerations in determining salary schedules for teachers in order of priority. The three considerations are: Money available, Cost of Living, and Salaries in other districts. More than three times as many superintendents assigned Money available the highest priority as those who assigned either Cost of Living or Salaries in other districts the highest priority.

Figure 2
Percent Changes in Mean Beginning Teachers' Salaries and Mid-Year (December - February) Consumer Price Indices in 18 Standard Metropolitan Statistical Areas 1969-1970 to 1978-1979

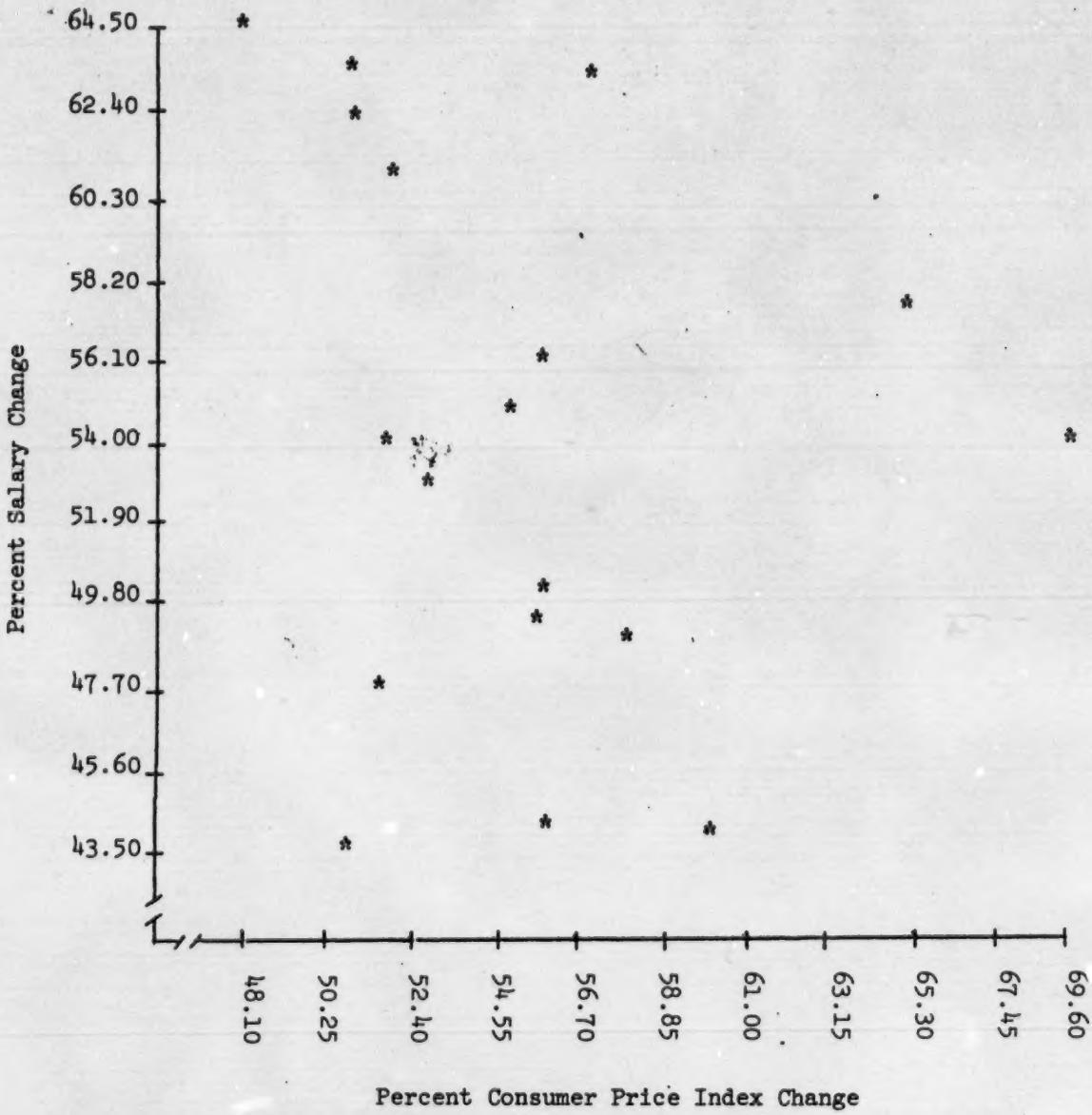


Table I - Mean Beginning Teachers' Salaries for Sample Districts and Mid-Year (December - February) Consumer Price Indices (CPIs) in 18 Standard Metropolitan Statistical Areas*

	1969 - 1970		1978 - 1979		Percent Change	
	Salary	CPI	Salary	CPI	Salary	CPI
Atlanta	$5,921	129.9	$ 9,645	198.8	62.9	53.0
Baltimore	6,681	131.9	10,227	204.2	53.1	54.8
Chicago	7,105	129.1	11,253	199.7	58.4	54.7
Cincinnati	6,156	127.7	9,706	211.2	57.7	65.4
Cleveland	6,422	132.3	10,461	207.9	62.9	57.1
Detroit	7,490	131.1	11,232	205.1	50.0	56.4
Houston	6,377	130.9	9,827	222.0	54.1	69.6
Kansas City	6,138	133.2	9,063	201.7	47.7	51.4
Los Angeles	6,819	131.2	10,518	199.6	54.2	52.1
Milwaukee	7,016	128.5	10,142	200.6	44.6	56.1
Minneapolis	6,709	132.8	9,984	210.2	48.8	58.3
New York	7,147	137.0	11,756	202.9	64.5	48.1
Philadelphia	6,603	132.9	10,604	202.3	60.6	52.2
Pittsburg	6,654	129.4	9,561	207.2	43.7	60.1
St. Louis	6,682	130.7	10,004	203.4	49.7	55.6
San Francisco	6,857	134.5	9,840	202.4	43.5	50.5
Seattle	6,543	132.2	10,945	199.6	62.3	51.0
Washington	7,350	134.6	11,477	208.7	56.1	55.1
Unweighted Means	$6,704	131.7	$10,347	204.9	54.2	55.6

CPI Data Source: Monthly Labor Review (May 1970) and (May 1979).

* CPIs for 1978-1979 are for the month of January or are the average of reported CPIs for December and February.

Figure 3
Percent Changes in Mean Beginning Teachers' Salaries and Per Capita Personal Income in 18 Standard Metropolitan Statistical Areas 1969-1970 to 1975-1976

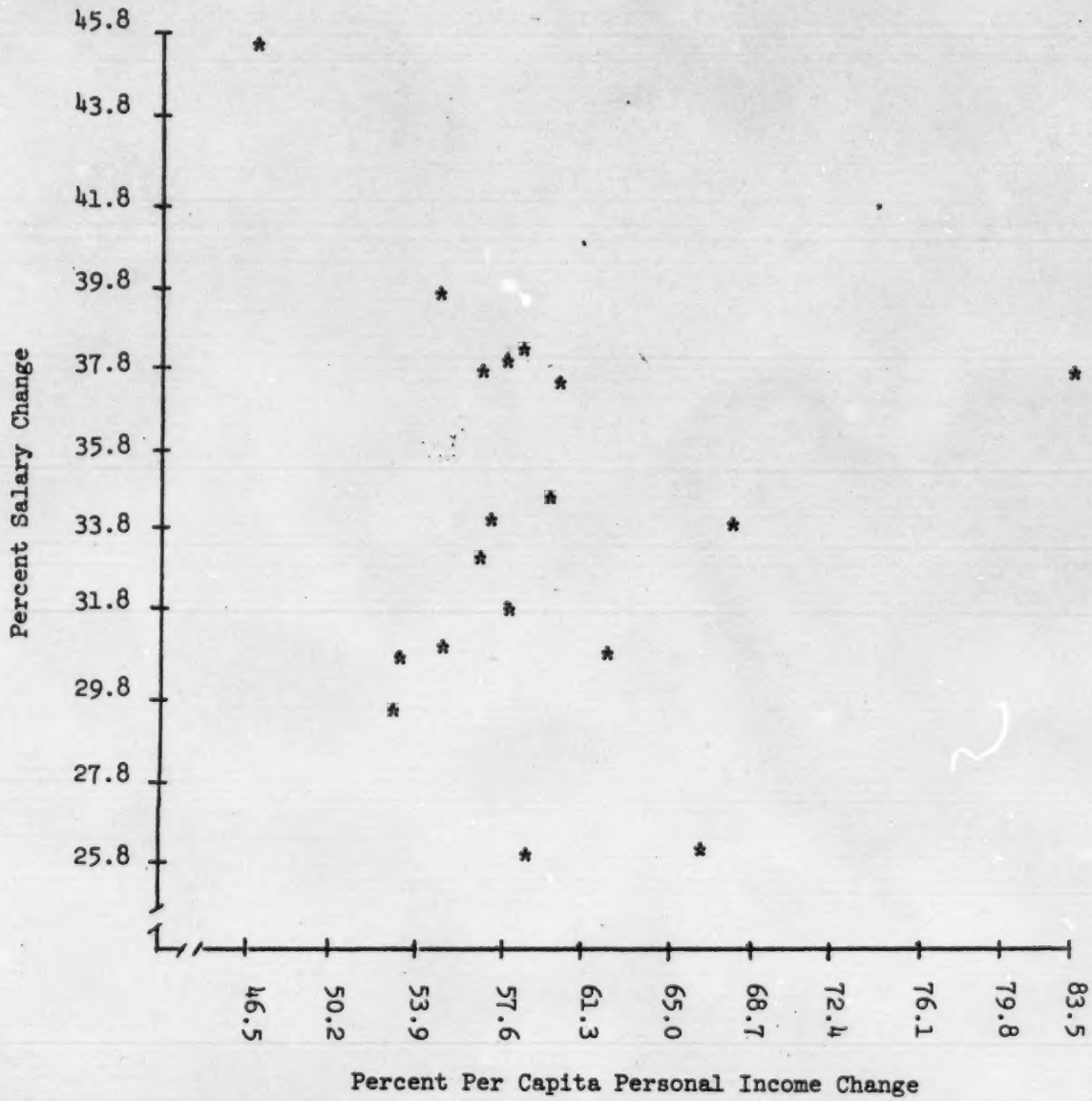


Table 2 - Mean Beginning Teachers' Salaries for Sample Districts and Per Capita Personal Income in 18 Standard Metropolitan Statistical Areas*

	1969 - 1970		1975 - 1976		Percent Change	
	Salary	Income	Salary	Income	Salary	Income
Atlanta	$5,921	$4,001	$ 8,145	$6,423	37.6	60.5
Baltimore	6,681	3,998	9,247	6,343	38.4	58.7
Chicago	7,105	4,828	9,909	7,467	39.5	54.7
Cincinnati	6,156	4,016	8,188	6,315	33.0	57.2
Cleveland	6,422	4,530	8,618	7,129	34.2	57.4
Detroit	7,490	4,598	9,699	7,036	29.5	53.0
Houston	6,377	3,938	8,755	7,222	37.3	83.4
Kansas City	6,138	4,180	8,022	6,763	30.7	61.8
Los Angeles	6,819	4,557	9,412	7,191	38.0	57.8
Milwaukee	7,016	4,331	8,837	6,846	26.0	58.1
Minneapolis	6,709	4,405	8,778	6,843	30.8	53.3
New York	7,147	4,990	10,406	7,314	45.6	46.6
Philadelphia	6,603	4,231	9,093	6,604	37.7	56.1
Pittsburg	6,654	3,931	8,378	6,534	25.9	66.2
St. Louis	6,682	4,165	8,770	6,450	31.2	54.9
San Francisco	6,857	5,100	9,054	8,049	32.0	57.8
Seattle	6,543	4,474	8,991	7,314	37.4	63.5
Washington	7,350	4,823	9,839	8,084	33.9	67.6
Unweighted Means	$6,704	$4,394	$ 9,008	$6,996	34.4	59.2

Income Data Sources: Local Area Personal Income 1969-1974 and Local Area Personal Income 1971-1976.

* Per Capita Personal Income was computed by averaging for consecutive years, e. g. 1975-1976 Per Capita Personal Income is the average of 1975 and 1976 incomes.

Previous analyses showed that CPIs increased slightly more than beginning teachers' salaries, but that the relationship between changes in these two variables was weak. It was also found that there was not a strong relationship between changes Per Capita Personal Income and changes in beginning teachers' salaries. However, of interest is the finding that Per Capita Personal Incomes in the sample SMSAs increased much more than average beginning salaries for teachers. These findings show that neither changes in Consumer Price Indices nor changes in Per Capita Personal Income were effective predictors of concurrent changes in beginning teachers' salaries.

Responses from superintendents in the sample districts indicated that the money available was of high priority, but that the cost of living and salaries in other districts were of less importance in determining salary schedules for teachers. The data are not available to conduct an analysis of the utility of changes in the amount of money available in predicting changes in teachers' salaries in the sample SMSAs. However an examination of the predictive utility of changes in salaries in other districts can be made.

The strong relationship existing between salaries across ten school years (see Figure 4) indicates that the relative status of teachers' salaries in comparison with the salaries in other districts may be a potent factor in predicting changes in salaries within a given district. Even when the beginning teachers' salaries for all reporting districts are compared between the 1970 and 1979 school years, a clear pattern can be found (See Figure 5). Districts with relatively high beginning teachers' salaries in 1970 tended to have relatively high salaries in 1979. Districts with low salaries in 1970 tended to have relatively low salaries in 1979. Pearson Correlation Coefficients between salaries across years for all sample districts range from a low of .49 between

Figure 4
1969-1970 and 1978-1979 Mean Beginning Teachers' Salaries in 18 Standard Metropolitan Statistical Areas

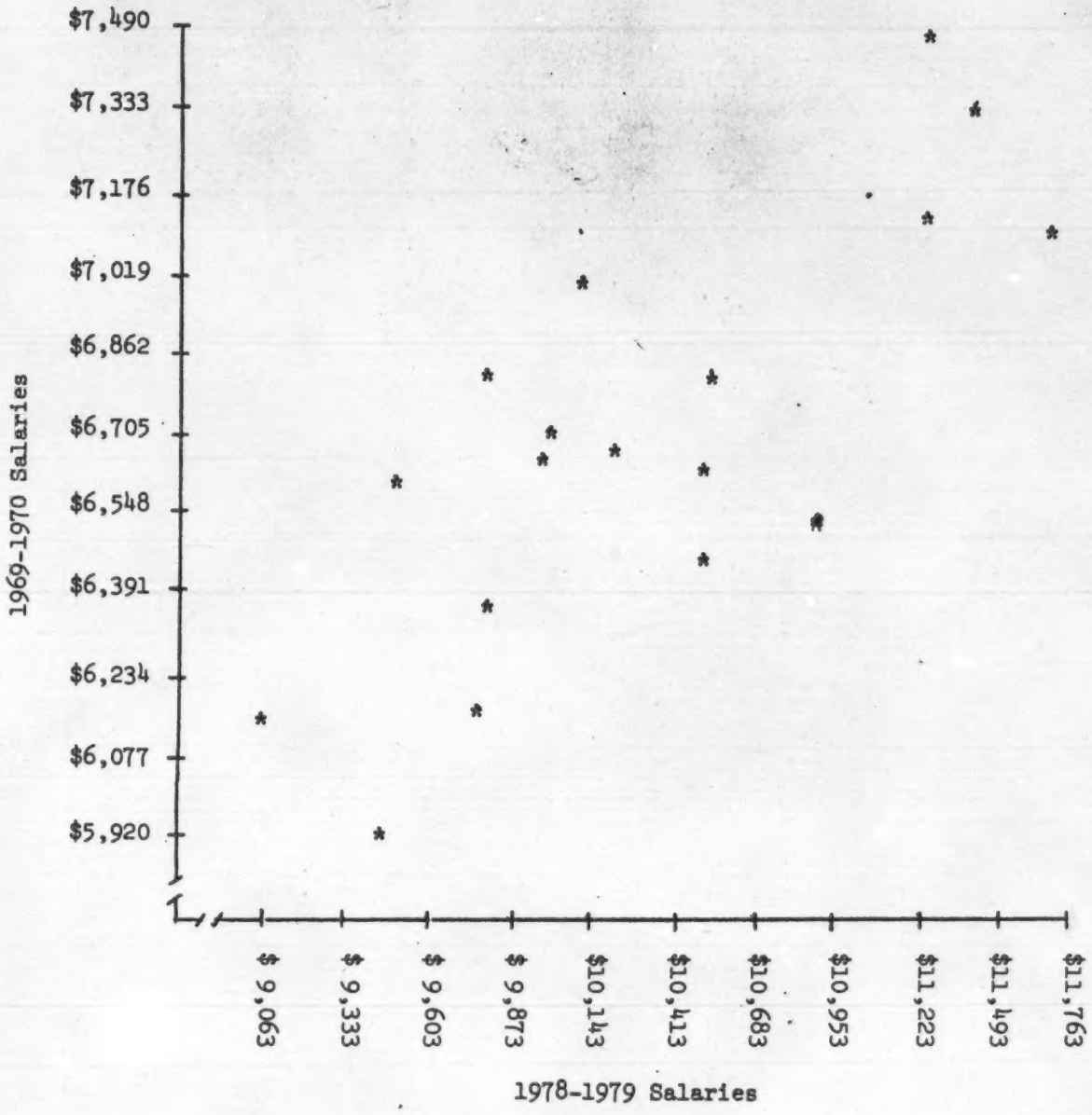
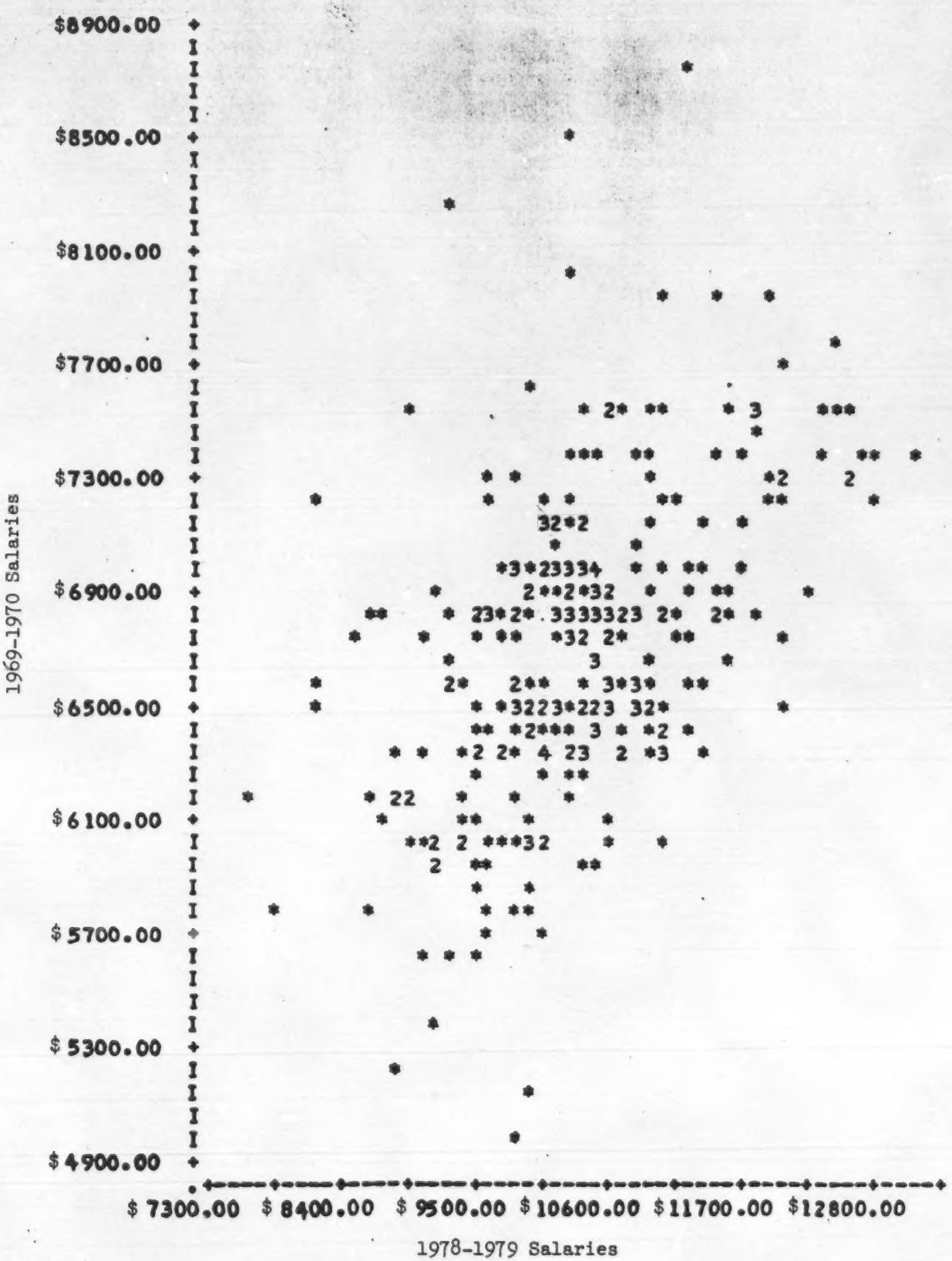


Figure 5

1969-1970 and 1978-1979 Beginning Teachers' Salaries in Sample Districts in Standard Metropolitan Statistical Areas



1970 and 1979 salaries to correlations exceeding .90 between salaries for consecutive years.

Conclusions

The findings of this study do not support significant causal relationships between changes in the cost of living or changes in local income and changes in the salaries paid to teachers in metropolitan areas.* However, the evidence reported in this paper is consistent with the following conclusions:

(1) Changes in teachers' salaries in referent districts have a greater impact on changes in teachers' salaries in metropolitan districts than either changes in the cost of living or changes in the incomes of local populations.

(2) Changes in the amount of discretionary funds available to metropolitan districts have a greater impact on changes in teachers' salaries than either changes in the cost of living or changes in the incomes of local populations.

*The implications of the findings of this study for educational finance can be found in: Kenneth M. Matthews and Carvin L. Brown, "Determinants of Metropolitan Teachers' Salaries: Implications for School Finance." Journal of Education Finance. Vol 5, No. 3 (Winter 1980).